

## REMARKS

### I. Summary of the Examiner's Action

#### A. Claim Rejections

Claims 1 – 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 5,442,625 to Gitlin *et al.* (hereinafter “the Gitlin patent”) in view of United States Patent No. 6,115,608 to Duran *et al.* (hereinafter “the Duran patent”).

Claims 10 – 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Gitlin patent in view of the Duran patent as applied to claim 4, and further in view of United States Patent No. 6,603,826 to Cupo *et al.* (hereinafter “the Cupo patent”).

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Gitlin in view of Duran and Cupo as applied to claim 11, and further in view of United States Patent Application Publication No. US 2005/0174978 to Shalvi *et al.*, (hereinafter “the Shalvi application”).

These rejections are respectfully disagreed with, and traversed below.

II. Applicants' Response

A. Examiner's Characterization of the Interview  
conducted on September 22, 2005

At page 10, lines 1 – 5 of the January 5, 2006 Office Action (hereinafter “the January 5 Office Action”) Examiner states:

“As noted by the Examiner in the Interview conducted 09/22/2005, differences between the operation of Gitlin and that of the Applicant's disclosed invention were apparent. However, the Examiner indicated, as admitted by Applicant, that those differences were not clearly reflected in Applicant's claims.”

Applicants' representative respectfully submits that at no time did he admit that the differences were not clearly reflected in Applicants' claim. Applicants' representative, to the best of his recollection, only agreed to consider possible amendments to the claims if, after fully considering Examiner's arguments as amplified in the Interview, Applicants' representative believed that the Examiner was correct that the differences were not adequately reflected by the claims. Applicants' representative concluded that it was not necessary to amend the claims, and that is why the portion of the MPEP at 2173.02 was reproduced in the October 26, 2005 Response. That portion of the MPEP indicates that Examiners cannot insist on their own preferences when terminology used by Applicants already satisfies statutory requirements.

B. Rejection of Claims 1 – 9 under 35 U.S.C. § 103(a)

Applicants believe the current controversy can be resolved by straightforward application of the guidelines in the MPEP regarding claim construction. The MPEP at section 2111 states that “During patent examination, the pending claims must be “given ... their ... broadest reasonable interpretation *consistent with the specification*” and at section 2111.01 states that “words of the claims must be given their plain meaning *unless applicant has provided a clear definition in the specification*” (emphasis added). Accordingly, these guidelines require that the specification be considered to determine both whether a proposed meaning for a claim term is consistent with the specification, and whether Applicant has provided definitions for claim terms. In other words, it is improper to hypothesize a meaning for claim terminology that is either inconsistent with the specification, or inconsistent with specific definitions provided in the specification.

Applying these rules to “bonded”; “transmitters”; “receivers”; “agile”; “frequency” and “code”, each of which appear *both* in claim 1 *and* the specification, indicates that Applicants are correct in their construction of the claims. When taken together, it is clear that “multiple *bonded transmitters and receivers* that are each *agile* in both *frequency* and *code*” refer to transmitters and receivers that are bonded across both physical (frequency) channels and logical (code) channels. Applicants are not reading limitations into the claims by assigning these meanings to the claim terms; rather, Applicants are simply using the terms consistently with explanations provided in the specification, and consistently with definitions provided in the specification.

Regarding the Examiner's construction, Examiner has effectively ignored "bonded", "agile", "frequency" and "code" and the reference of these terms to channel bonding across both physical (frequency) channels and logical (code) channels. Instead of assigning a meaning to each of the terms in claim 1 (including "bonded", "agile" "frequency", and "code"), Examiner has focused on "variable bandwidth" and construed it to encompass a data transmission frequency that varies as a result of the variable bit rate transmission accomplished in the Gitlin system. "Variable bandwidth" when construed consistently with Applicants' specification is a consequence of bonding receivers and transmitters across physical (frequency) channels, not logical (code) channels as in the case of Gitlin. To construe the claim terms in the manner of the Examiner is to ignore the stricture "*consistent with the specification*"; in other words, the Examiner is hypothesizing a construction that is *inconsistent* with the specification. Effectively, the Examiner has skipped considering how Applicants' claim terminology should be construed in light of Applicants' own specification, and instead, construed claim terminology in view of the Gitlin reference.

The Examiner's construction also violates the rule that claims should be construed as one skilled in the art would construe them. MPEP 2111; *In re Cortright*, 165 F.3d 1353, 1359; 49 USPQ2d 1464, 1468 (Fed. Cir. 1999). One skilled in the art, having read Applicants' specification, would understand "using a variable bandwidth waveform with multiple bonded transmitters and receivers that are each agile in both frequency and code to provide a variable bandwidth and variable rate multiple access system" to refer to an

operation performed in a communication system that allows channel bonding across both physical (frequency) and logical (code) channels. In view of the lengthy and detailed description of Applicants' invention, one skilled in the art would not be confused as to what Applicants seek to encompass in claim 1 and thus would not be motivated to consider Examiner's strained construction that ignores aspects of Applicants' invention and only makes sense if one has not considered Applicants' teachings.

In case there is any lingering doubt about what "frequency agile receivers and transmitters" means, Applicants reproduce again the portion of the specification appearing at page 18, lines 7 – 29 (emphasis added):

"Another advantage of adding frequency agility to a PN-code agile modulator 26 and demodulator 34 is that it permits the system to have flexibility in its consumed bandwidth. For example, a system that can operate only with 14 MHz wide channels cannot be used if the bandwidth allocated to the system is only 3.5 MHz. On the other hand, if a system uses CDMA/FDMA with channel bonding, then both the BS 11 and the SSs 10 have a bank of receivers that can each independently be tuned to one of a variety of frequencies, in addition to one of a variety of PN codes. If the bandwidth of any one subchannel is, for example 3.5 MHz, then by tuning some of the modulators and demodulators to each 3.5 MHz slot within a 14 MHz allocation, the bandwidth can be consumed efficiently. Thus a CDMA/FDMA system with four 3.5 MHz subchannels can operate in a 14 MHz channel, but a 14 MHz bandwidth CDMA system can not operate in a 3.5 MHz channel. Furthermore, even though a 10.5 Mhz bandwidth pure CDMA system and a CDMA/FDMA system with three 3.5 MHz subchannels occupy the same bandwidth and provide

approximately the same throughput when fully loaded, the CDMA/FDMA hybrid system is far more flexible. For example, if a 14 MHz frequency allocation is divided into four 3.5 MHz subchannels (labeled A, B, C and D) and subchannel C is allocated to another system, then a 10.5 MHz bandwidth pure CDMA system could not operate. In contrast, a CDMA/FDMA system could simply use subchannels A, B and D, leaving subchannel C to other systems. The ability to use non-contiguous subchannels provides operators a unique flexibility that can be very useful when attempting to add a new service to a band of frequency where some of the frequency subchannels have previously been allocated to other systems.”

Construing the claim terms “frequency” and “agile” in view of this portion of the specification one can only conclude that Applicants’ construction is correct. In addition, it is clear that none of the references of record (including the Gitlin patent), whether taken singly or in combination, either describe or suggest such modes of operation.

Further, regarding the Examiner’s comments at page 10, lines 14 – 21 of the January 5 Office Action that the Gitlin patent does disclose channel bonding across frequency (physical) channels, Applicants respectfully request that Examiner use the claim terms discussed above consistent with the specification, and the concept of “channel bonding” as one of ordinary skill in the art would understand it. It then becomes clear that the Gitlin patent does not disclose the subject matter of claim 1 at issue.

The Duran patent, which was cited in combination with the Gitlin patent, adds nothing to the analysis. As the Examiner admitted during the Telephonic Interview, the Duran patent was cited for the mere fact that a mobile communications system may operate in a hybrid manner combining both CDMA and FDMA aspects, but there was no description or suggestion about the particulars of such a hybrid system in Duran. Instead, Duran concerned handoff procedures for providing a seamless transfer of a active call between cellular communications systems operating in different signal formats and having different modes of handoff request initiation.

For the foregoing reasons, Applicants respectfully request that the Examiner withdraw the rejection of claim 1. Applicants respectfully submit that independent claim 4 is patentable for similar reasons in addition to reasons associated with its independently-recited aspects. Further, Applicants respectfully submit that dependent claims 2 – 3 and 5 – 9 are allowable as depending from allowable independent claims.

Applicants respectfully add the following remarks providing additional support for the patentability of the dependent claims.

Dependent claim 3 recites a method as set forth in claim 1 “where channel bonding across both code space and frequency space enables the system to operate in at least one of a variable, contiguous or non-contiguous bandwidth at a finely variable rate.”

It is not seen where in the portions of the Gitlin patent relied upon by the Examiner – Title; Column 1, lines 6 – 10, 40 – 42; Column 3, lines 30 – 41; and claim 3 – there is either a description or suggestion of “channel bonding across both code space and frequency space.” Applicants respectfully note that Examiner has ignored Applicants’ request to point out with specificity exactly where in these cited portions the subject matter of claim 3 is either described or suggested, and instead has merely repeated the recitation of these portions.

Since Examiner has ignored Applicants’ request, Applicants will reproduce each of the portions relied on by the Examiner:

“CODE DIVISION MULTIPLE ACCESS SYSTEM PROVIDING  
VARIABLE DATA RATE ACCESS TO A USER” [Gitlin patent, Title]

\* \* \*

“This invention relates to code division multiple access (CDMA) systems and, more particularly, to a CDMA system for providing a user with variable and dynamic bandwidth capacity access.” [Gitlin patent, Column 1, lines 6 – 10]

\* \* \*

“In these CDMA systems, there is a continuing need to increase the performance of the system by accommodating users having different source rates.” [Gitlin patent, Column 1, lines 40 – 42]

\* \* \*

“In an MC-CDMA system of FIG. 2, if a user 1 requests (and is allowed by the base station 290) M times the basic source rate R, mobile unit 1 converts the user digital stream (using serial-to-parallel unit 280) into M basic rate streams. Each of the basic rate streams is encoded using



a different code ( $C_1 - C_M$ ) and they are superimposed together (using combiner 254) and upconverted (using units 208, 209) for radio transmission to the base station 290. The codes  $C_2 - C_M$  are derived from  $C_1$  using a subcode concatenation that is described in a later paragraph.”  
[Gitlin patent, Column 3, lines 30 – 41]

\* \* \*

“3. The radio transmitter unit of claim 1 which communicates with a base station over a facility and which further comprises:  
means for receiving an uplink control signal over the facility,  
means, responsive to the uplink control signal from the base station, for making a probabilistic determination of the success of the radio transmitter unit transmitting at one or more multiples  $M$  of the basic bit rate  $R$ , and wherein  
said adjustable coding means is responsive to a determined multiple  $M$  for transmitting the user’s digital bit stream at  $M$  times the basic bit rate  $R$  over the facility.” [Gitlin patent, Claim 3]

Now having reproduced the portions of the Gitlin patent relied upon by the Examiner, Applicants respectfully request that the Examiner point out with particularity where channel bonding across physical (frequency) channels, as would be understood by one skilled in the art, is either described or suggested in these portions of the Gitlin patent. Applicants respectfully submit that these portions have absolutely nothing whatsoever to do with channel bonding across frequency channels and instead concern variable bit rate data transmission.

Similar remarks apply to dependent claims 7, 8 and 9 that have to do with details associated with channel bonding across physical (frequency) channels.

C. Rejection of Claims 10 – 12 under 35 U.S.C. § 103(a)

Applicants note that claims 10 – 12 depend from an independent claim that is patentable for the foregoing reasons. As a result, Applicants respectfully submit that claims 10 - 12 are also allowable.

D. Rejection of Claim 13 under 35 U.S.C. § 103(a)

Similarly, claim 13 indirectly depends from an independent claim that is patentable for the foregoing reasons. As a result, Applicant respectfully submits that claim 13 is allowable.

III. Conclusion

Applicants submit that in light of the foregoing amendments and remarks the application is now in condition for allowance. Applicants therefore respectfully request that the outstanding rejections be withdrawn and that the case be passed to issuance.

Respectfully submitted,

March 24, 2006  
Date

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